

INTELLECTUAL PROPERTY RIGHTS & INDIGENOUS HEALERS

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## INTELLECTUAL PROPERTY RIGHTS & INDIGENOUS HEALERS

### *Introduction*

Intellectual property is that knowledge borne by an individual or culture which is important to the development of each. In developed countries, this term usually refers unique knowledge of importance to the development and expansion of an individual or company. In developing countries, intellectual property pertains to the specific qualities of a given place, due to which a particular culture thrives, develops, and grows. For the most part this latter form of intellectual property is known only by local communities, and remains unknown by others residing outside of that region. Once interactions begin taking place across cultural boundaries, this intellectual property may transfer to new cultures. How do the legalities dealing with the intellectual property of developed and developing countries compare with each other?

Most recently, a number of legal and ethical cases erupted due to the discovery of traditional medical knowledge in developing countries by developed countries. Due to the research of indigenous healers by scholars, intellectual property in the form of traditional knowledge has been revealed through professional publications, thereby placing it in the public domain. Since traditional knowledge has the ability to impact whatever evolution and survival takes place within a place and its environment, this sharing of information in theory should benefit both the discoverer and the entrepreneur making use of it. Recent research however reveals that these ideal outcomes are not always the case. This paper relates how the legal rights to medical knowledge of indigenous healers can be improved through the use of intellectual property-related legal rights for developed countries.

### *Conserving Traditional Wisdom*

In 1982 the Commission on National Parks and Protected Areas agreed to the *Bali Action Plan*, an agreement made between countries in favor of the need for better "management" of "traditional wisdom" and the further investigation of "the role of traditional societies in the management of living resources" (IUCN Commission on National Parks and Protected Areas, Objective 5, Activity 5.5, in McNeely, 1990). Since then, traditional wisdom has become nearly synonymous with intellectual property and the legalities of dispatching this wisdom and intelligence from indigenous cultures can have a direct impact on their cultural heritage.

The sharing of intellectual property between developing and developed countries has historically favored the economic development of developed countries. Typical results of these past accessions of traditional knowledge include the production of new medicines, the development of new food sources, and the improvement of important manufacturing chemicals. These events have often take place without compensating cultures for the knowledge they shared with some of the developing countries. Most recently, due to the rapid development of developed countries, a form of compensation for intellectual property in the form of shared income has begun, turning developing countries have become more than just important storehouses of natural resources (King, 1991, 1992, 1997; Conte 1996; Mays 1997).

International gatherings over the past decade have led to the signing of a series of agreements which further define the rights of developing countries to benefit equally from whatever intellectual property-technology transfers take place (Sussman 1981; Oswald 1983; McNeely 1990; Commission on Human Rights 1993; Brown 1995; Inter American Commission on Human Rights 1995; Swanson 1995; Balick 1996; Puyvelde 1996; Moran 1997). In 1992, this led to the signing of the *Global Biodiversity Strategy* which set new

goals for improving upon previous conservation and biodiversity programs (World Resources Institute 1992). Signers of this *Strategy* agreed first with the notion that a greater understanding of the roles human life play in ecosystems had to be better developed and defined. Second, the signers agreed that incentives had to be designed in order to slow the loss of biodiversity taking place in many of these developing countries. Third, the signers agreed that developed countries should aid in the development of the sustainable use of their own natural products, with the goal of stabilizing their biodiversity and culture through the continued application of both traditional and modern knowledge to the local cultural lifestyle (World Resources Institute 1992).

The last of these goals has as its objectives the desires "[to] correct imbalances in the control of land and resources that cause biodiversity loss," "[to] expand and encourage the sustainable use of products and services from the wild for local benefits," and "[to] ensure that those who possess local knowledge related to genetic resources benefit appropriately when it is used" (World Resources Institute, The World Conservation Union, United Nations Environment Programme, 1992, p. 83, 86, 93). Included in this contract was Action 41 which recognizes "the value of local knowledge and genetic resources" in terms of "local people's rights" (ibid, p. 20). Signers of this plan recognize that intellectual property right protection must exist for the benefits of both the developed and developing countries, and that any related arguments concerning inequality in sharing has to be made for both groups. Thus it is now argued that the multinational corporations which patent and market their "new discoveries" in developed countries must agree to compensate the indigenous people from whom they obtained the knowledge of these resources or their utility. Should this decision not be agreed to by the multinational corporations, it has been suggested that the

rights to access or use these valuable natural resources could be denied or outrightly refused by indigenous farmers and herbalists (ibid, p. 94).

In rapidly developing countries where conservation programs have been successfully initiated, the *Global Biodiversity Strategy* can be of tremendous benefit to both the indigenous peoples and foreign entrepreneurs. It has less of an impact however on the developing countries in their early stages of development. The original objectives of these programs have been to "strengthen the capacity of off-site conservation facilities to conserve biodiversity, educate the public, and contribute to sustainable development." It is now hoped that the overall benefits of these actions will be to "strengthen crop and livestock genetic resource conservation, [while] implementing the Global Initiative for the Security and Sustainable Use of Plant Genetic Resources," and "fill major gaps in the protection of plant genetic resources" (ibid, p. 138, 140, 141).

### *The Intellectual Property of Healers*

In 1992 the *Global Biodiversity Strategy* redefined some of the original goals from the 1982 *Bali Action Plan* so as to apply some of the rights regarding the environmental conservation plans to the goal of conserving human cultural biodiversity. That same year *The Convention on Biological Diversity and Intellectual Property Rights* produced a series of agreements which dealt with the intellectual property rights of the local herbalist, medicine man, and shaman (Golin 1993).

Traditionally, indigenous healers keep their knowledge secret. In recent years, this knowledge has been popularized by its publication with the results of various research projects. This has resulted in the publication of information previously classifiable as "trade secrets"

within the boundaries of a developed country. In a modern legal sense, this means the healer who shared his or her knowledge and information with the researchers has lost his or her rights to such secrecy, but in turn has given developed countries and multinational companies information which they themselves can keep secret, copyright, patent, and market. Whereas the events which have ensued due to this disclosure of this information may in the long term have a positive impact on society as a whole, the negative impact such events might have on the local economy of traditional groups engaged in this intellectual property sharing remains a potential problem (Lechtenberg 1989; Broome 1994; Swanson 1995; Aylward 1996).

In accordance with the *Bali Action Plan* and *Global Biodiversity Strategy*, intellectual property should have rights assigned to it which are equivalent to the legal rights already in place in developed countries which are designed to protect their own intellectual property. In theory, appropriate reciprocity could then be expected whenever such intellectual property is shared between developing and developed nations. Examples of such reciprocities could benefit the United Nations environmental goals, improve the local conservation programs, allow local research and development programs to continue, and continue providing additional financial assistance whenever and wherever it is needed. In actuality, such events rarely take place to their fullest potential (McGowan 1991; McCaleb 1997).

Since the healer's knowledge shared with researchers from developed countries and multinational corporation is usually considered integral to the survival of his or her culture, it in theory needs legal protection by way of intellectual property rights agreements. The same techniques put to use whenever agreements are made in favor of securing technological know-how for developed countries needs to be employed for the benefit of people in the

developing countries who keep this traditional knowledge and local technological or industrial know-how. Until quite recently, the healer's knowledge was not considered an invention or an example of copyrightable, patentable material.

### *Intellectual Property Rights*

Intellectual property exists in numerous forms. Most intellectual property in the form of traditional knowledge which exists has not been published but instead is retained by a select few people. In a way this practice is akin to a developed country's use of trade secret policies. Once this information is disclosed in a database or revealed and published, it becomes either public domain or is managed by the use of international copyright restrictions. In this way, the use of former trade secrets may then take place in developed countries on behalf of marketing agents who impose certain rights and restrictions on the same product use in the form of contracts and licensure agreements. In turn, to complete the marketing of this new product in a developed country, licensed marketing agents may employ certain legal rights such as the use of a trademark (i.e. for product name labels such as Tropical Rainforest/TM products), a trade secrecy policy (i.e. the Coca-Cola/TM recipe), or a patent restrictions (i.e. regarding specific over-the-counter formulas and prescriptive cancer drug applications).

Most of the attempts to involve indigenous people in these same marketing strategies have made use of trade secrecy, copyright, trademark, and petty patent policies. More recently, several new technology-driven applications were added to this list of potential strategies which indigenous people may take to market their natural resources. To better the future income generated from indigenous botanical medicine knowledge, the Petty Patent, Plant Patent, and Utility Patent policies now in use by

developed countries need to be applied, with the hope of turning modernization into a strategy in which the average level of education and financial status continues to improve into the twenty-first century.

Petty Patents. An herbalist may take advantage of his or her unique knowledge and use it to produce a unique line of patent medicines. This action would be similar to those already attempted by numerous foreign investors who locate an unpatented plant product and then market its use as a food or medicine under a trademarked product name.

This means for generating income has been the most popular one taken by many of the developing countries. It involves the use of contracts, licensure and petty patents, which in turn allow a company to file for a patent on a recipe, contract the indigenous people to identify and gather it, and then perhaps produce part of this product before marketing it with the help of ambitious entrepreneurs. Recent examples of this practice include the marketing of coffee beans and nuts from Brazil, the selling of baskets and fabrics from Southeast Asia, and the patenting of unique herbal remedies from Africa by German and Italian nutritional supplement/herbal medicine companies.

The problem with this method of generating income is its long history, in spite of which it continues to show limited success. Using Native Americans as an example, the Dutch were able to develop Iroquois basket markets in the New Amsterdam marketplace as early as 1626, just a few years into this young city's settlement. Still the outcome of this basket market benefitted Holland more than it did the Iroquois or the New World Dutch (McMahan 1992, p. 35).

This same marketing scheme has in fact been the chief method of manufacture and sales of products since the initiation of the same practice in tropical rain forests during the colonial years. It was accelerated during the late nineteenth century by technological and horticultural



developments, and most recently revitalized due to an increased public awareness and interest in ecological and environmental issues and multicultural, integrative, alternative medicine products (Mays, *et al.*, 1997).

Ironically, the purchase of many of these products produced with the support of indigenous peoples may be of little benefit to these people, for throughout the nineteenth century the patent laws have existed primarily for the benefit of developed countries. Therefore, most petty patents in use are either designed for marketing and use in the countries which have patented them, or they are marketed in the more economically stable developed countries. These developed countries usually have a strong industrial base and a stable economy which can be used to maximize the benefits of these natural products for both the producer and the indigenous people. And although the co-signing of some form of licensure or marketing and development contract may take place, the actual benefits returned may be very little and company-generated altruisms often appear to be lacking.

The herbalist who tries to accomplish this on his or her own by establishing a personal business may produce his or her own petty patent of the recipe in use, a trademarked product name, and an artistic copyright for the label. The draw back to this method of securing product rights is that these protections may come at a significant financial cost, and yet, any other company can still market a similar recipe using a different name or label and outcompete its originator through effective marketing strategies.

A even greater disadvantage to employing this marketing technique is that it lacks uniqueness, except in company, trade mark, and artistic copyright. Should the product distribution extend too far beyond the borders of the culture within the developing country, multinational and large scale drug companies could become the chief competitors. For example, a new line of "Shaman Herbal

Extracts" produced by a Brazilian herbalist has little marketing potential in North America when compared to the marketing activities of much larger multinational pharmaceutical and nutritional supplement companies which provide more popular renderings of the same medicines (Wesaw 1995). Some of these companies in fact may even carry out similar product development with the broad support of companies still active within the developed countries. At best, the marketing activities of a single herbalist might better the public awareness of his or her culture and perhaps improve upon the income generated from the tourism industry.

Plant Patent Act. Another route the herbalist may take is to turn to the patent laws. Three patent procedures in use by developed countries may be applied by developing countries to improve the market of their medicinal plants: 1930 Plant Patent Act [PPA] and 1970 Plant Variety Patent Act [PVPA] and the more recently developed plant genetic patent applications (Jondle, 1989; Bennett, 1994; O'Shaugnessy 1994; Burchfiel, 1995). The applicability of these Acts to developing countries depends upon the level of development taking place in these countries, and like the use of the Petty Patent option requires a certain level of education on behalf of the marketing agents, be they indigenous or not.

PPA applies only to plants reproduced by asexual means. Thus it infers the need for an adequate horticultural setting in order for one to carry out the task of plant product creation and reproduction. A major application of PPA to tropical plants could involve rare local plant species which rarely reproduce sexually. Such examples include the orchids, one of the most heavily exploited families of tropical plants recently made available to developed countries by means of PPA patents in combination with newer biotechnology and genetic engineering skills.

In the indigenous setting, since reproducibility of a plant covered by PPA must take place through asexual means, it can be one of the most difficult options for an herbalist-turned-horticulturalist to take. For now, PPA cannot be applied to the tropical setting or commune unless one has actively and aggressively already learned a method of propagation either by traditional means, and/or by a certain degree of persistence in learning these new technologies. In its present state, PPA facilitates the patenting of any new and unique natural products in developed countries, which in turn are produced by horticulturalists who prior to the plant discovery lacked the knowledge of the plant's natural products, much less their existence (Bent, 1989; Bentley, 1989; Williams and Weber, 1989).

Plant Variety Patent Act. An herbalist might also consider the use of the 1970 Plant Variety Patent Act for securing medicinal plant rights to improve local income. In this case, the uniqueness of the plant as a marketable horticultural product is again being taken advantage of. PVPA protection may focus on the production of specific agricultural crops essential to cultural survival and income, or to crops that are sellable as unique decoratives and horticultural specimens. The chief requirement is that these products be produced by selective breeding of natural specimens until a desirable end product is made (Bent, 1989; Bentley, 1989).

Like with PPA, this practice of creating a patent requires know-how, skills, and technology, which are the deciding factors as to whether or not this method is put to use (Bentley, 1989). Some may argue that in actuality, this process of producing new plants already has a long history of development in traditional societies. But since many developed societies have already cashed in on the outcome of these farming practices (i.e. by patenting certain strains of corn and beans), the common food and medicine crops

created for example by the Incas and Maya are no longer admissible as PVPA materials unless they undergo further genetic change. A valid argument against the use of this option by indigenous groups is that increased dependency on monocultures may develop. Were developing countries or indigenous groups to get involved in such practices, one could argue that these processes might further reduce genetic biodiversity and increase mankind's monocultural dependency (Vandermeer 1997).

Plant Genetic Patents. PVPA was written to overcome the limitations placed of the 1930 PPA by its legal restriction for use only with asexually-reproduced non-root-generated plants and both were written for horticultural and agricultural use involving plants that bear visual differences. The goal of PPA and PVPA is the protection of physically definable, phenotypic natural products. Until the 1980s, plants which bore important chemical traits invisible to the naked eye could not be covered by these patents. Since chemical traits are due to plant genetic sequences, the option of patenting plant and animal genetics became the next step in the development of bioengineered natural resource products (Williams 1989; Sibley 1994).

A potential long term consequence of relying on PPA and PVPA has been an over-dependency on natural products patented by multinational corporations (Walden 1995). Most recently, the potential problems attached to this issue became clear when cultures which survive on the marginal income provided to them by farm-dependent families had to face natural resource right restrictions placed on them by multinational bioengineering firms (Shiva 1997b). These traditional communities were still employing the crops in their possession, which were marketed by biotechnic firms and therefore became competitive with the bioengineered varieties of the same original crop strain produced by multinational corporations. These multinational groups, being of international developed country origin, depend on

legal systems to give them the right to prevent the originators of their bioengineered strain from growing the own original native cultivars (Shiva, 1997a, 1997b; Vandermeer, 1997). Due to such events, the acceptance by traditional peoples of bioengineering and the use of plant genetic patents will remain unlikely in the near future (World Resources Institute, The World Conservation Union, United Nations Environment Programme, 1992, p. 60).

In spite of these differences, in progressive, more educated countries with traditional teachings some indigenous peoples have chosen to try producing and marketing either specific strains, hybrids, or clones of their fish and land animals. The breeding and marketing of salmon, trout, and tilapi have become the most common of these projects (Richardson, 1993, p. 76). In some cases, indigenous peoples have received the financial support from the National Science Foundation for work in university settings and research laboratories. As a comparison, these same events have not taken place between indigenous people and many of their land animals.

In recent years, the use of biotechnology-produced phenotypes has led to the initiation of a patent system applicable to the marketing of know-how regarding plant and animals use. For plants, these legal codes may sometimes be taken simply as extensions of PPA, PVPA, but in most cases they are examples of the newly-framed Utility Patent laws, enabling scientists to produce various forms of patentable zoota, including mice, fish, farm animals, and livestock, and plants for which PPA and PVPA cannot be employed (Ihnen & Jondle, 1989).

Utility Patent. The most useful patent tool to an indigenous healer is the utility patent (Bennett, 1994, p. 178; Williams and Weber, 1989, p. 96-8). Whether or not this method of marketing could be used to secure income for his or her people depends upon the creation and acceptance of an international utility patent law.

With a utility patent, one need only secure the rights to a specific use of set of related uses for a plant of a specific type. For example, a utility patent may be placed on trees in use for the research and marketing of the cancer drug taxol. This patent in turn might also exempt other countries, like China and bordering countries, from producing the same products from the same or related natural resource (Duke 1996, p. 269; Anonymous 1997). As another example, a utility patent may be secured for a newly discovered plant compound responsible for molluscicidal effects; such was the case with one of India's Euphorbs, in which the chemistry was not known to the chemical industries, and yet had a long history attached to the knowledge of its use locally in the drinking water.

To file for utility patent, a product usually has to be non-obvious in the country which patents it. It has to have some sort of unique use not conceived before by another individual residing within a country dominated by the same legal system. A second requirement is that the patentable use of this product has to be reproducible by others in the field. The third requirement is that this knowledge must be published, thereby allowing others to make use of it once they receive permission from the utility patent owner and receive the needed plant seeds or cuttings.

A healer's use of a particular plant as a particular type of medicine, if that use is news to the developed or developing world, could in theory become a utility patent. It would then be up to the healer to replicate this plant, in order to provide adequate supplies of it or its seed for future researchers to make use of.

Utility patent has the advantage of lasting one year longer than other patents (18 versus 17 years). Still, a utility patent does not cover all uses for a particular plant, just a specific use disclosed in the patent. Since the plant descriptions in a utility patent can be somewhat

generic in nature, these uses may involve more than one species of of a single plant genus.

Utility patent is of no use to plants from which the product has multiple uses, such as an oil for use in cosmetics, medicines, and foods. A utility patent can only be secured for one specific use at a time for each of these broad categories of uses. The Canola/TM seed oil, for example, is a specific oil of low-erucic acid content, and is therefore consumable and marketed as being healthier than most food oils. This marketing of the oil could be applied to Canola's food use through utility patent. This patent does not however prevent the oil from being used to make fuel products, cosmetics, etc.

In theory, an herbalist could file for a utility patent on a single type of medicinal use for one of the plants, should such laws exist within the confines of the economic system his or her products would be sold. After which, others who wish to participate in this use must then obtain their natural products from the patent holder. If these healers use another product from the same plant to treat another malady, such as by changing the use of a cancer drug into a treatment for depression (i.e. *Hypericum*), then that new plant drug use may also be patented by another herbalist. Afterwards, the plant may be gathered freely without permission from the first patent holder.

Therefore, filing for the utility patent of herbal medicines will probably remain unpopular due to the multiple uses of herbs and variability in their effectiveness, not always replicable by others in the field. In addition, new anthropological findings regarding similar uses of the same plant by other cultures could bring later question the novelty of such a discovery. Since utility patents are supposed to be filed for novel, important discoveries, as judged by the developed world court systems, a local court system situated nearby an indigneous group might not label such a discovery as novel (Cannon, 1994). Such an example

might be the specific use of the natural compound Taxol for treating cancer. Since this use was defined by biomedicine, not traditional medicine, it involves a series of biotechnological and highly technical treatment procedures. Therefore, even though taxol is a natural compound, its use may be limited by utility patent by the drug manufacturer, Bristol-Myers, which discovered its unique attribute.

Unfortunately, most developing and undeveloped countries lack the legal codes required to produce a utility patent law. These countries grant few if any such rights to their residents, and usually try to maintain the primary rights to use and exploitation (if they so choose) of any discovered good or product. To date, legal restrictions and patent laws regarding the use of intellectual property and natural resources is scarce, if not absent, in nearly all developing countries.

Even if the passage of such a law were the case, education status and economic development may still prevent developing nations and indigenous groups from progressing enough to make use of this legal power for securing their rights to their intellectual property and natural products. This suggests an alternative reason might exist for that the current rise in popularity of tropical rainforest products by multinational companies. The increased interest may in fact be a measure taken by multinational companies to prevent other developing countries from catching up in biotechnology and economic power, such as through the "assimilation" of traditional plants and their genetic traits by means of utilizing the various patent opportunities. Perhaps multinational companies are hoping to take advantage of these opportunities before their future competitors decide to follow suit.



### ***Conclusion***

The initiation of various biodiversity and conservation projects removes from the healer sole ownership of important information regarding the healing power of plant materials. In turn, local cultures no longer have exclusive rights to these trade secrets. The use of Patents serves to improve tribal or cultural income, but only for a brief while. Should the same events now taking place continue into the future, the information that is gathered and placed in public domain will further disseminate the knowledge of these once-traditional uses for natural products into industrialized societies. In turn, the survival of these multicultural settings and their resources may come to depend more on human behavior, and less on the unique traits and genetic diversity of these biota (Leslie 1978; Khalil 1995).

Should indigenous groups apply their knowledge to well-established national, international and tribal legal systems, developed nations might then argue that by so doing these nations or indigenous groups also wish to adhere to the restraints posed by the United Nations regarding their definition as a culture and not independent nations (Moisy 1997). Similarly, if indigenous people wish to become part of the global marketplace, and to copyright, trademark, and patent their know-how and uses for the traditional natural resources, then they will have to surf the technology like everyone else. This means get an education, learn science and technology, protect your knowledge, market your products, and ultimately, overcome the current limitations that now exist in most developing countries and indigenous groups. Otherwise, the Soma, panaceas, and wild "livestock" will be of little value as they are replaced by marketable, patentable plant and animal varieties, clones, or hybrids.

Shamanic knowledge was and remains the best kept trade secret. Now, the exploration of such people and their societies is responsible for revealing these secrets and

putting them into the public domain. The meshing of knowledge and technology between developed and developing countries, for the purposes of increasing the know-how and use of natural products, may help sustain some of the conservation and sustainable use strategies, while remaining under the protection of several intellectual property right codes (Gollin, 1993, Article 25(2)(c) pp. 289-302). We might suspect, therefore, that through the modernization and westernization of a once-traditional society, versus its extinction, by introducing this knowledge into the public domain, the best inevitable outcome for an information network funded by a global economy could take place. The best outcome of the shaman's intellectual property is that it is not for sale and not owned, but instead, like everything else, it exists as a part of global intelligence.

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